

Date: Thursday, 3/2/2006 3:08:06 PM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: BRACKET ASSEMBLY		
Job Number	: 26038					
Estimate Number	: 10279					
P.O. Number	: N/A			Part Number	: D3121143	
This Issue	: 3/2/2006		S.O. No.	: N/A		
Prsht Rev.	: NC			Drawing Number	: D3121 REV C2	
First Issue	: N/A			Project Number	: N/A	
Previous Run	: 25556B			Drawing Revision	: C2	
Written By	: See Component Below			Material	: N/A	
Checked & Approved By	: XJL 06.03.02			Due Date	: 3/26/2006	
Comment	: Est Rev: Pick:A 04.02.18 New issue KJ/DS			Qty:	6	Um: Each

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	M174B1000X02000	17-4 SS Bar	
		Comment: Qty.: 0.3864 f(s)/Unit Total : 2.3184 f(s) Material: 17-4 SS Bar per AMS 5604/5643 (M17-4-B1.000x02.000) Identify for D3121-113 Batch: M19712	J.L 06.03.14
2.0	BAND SAW	BAND SAW	
		Comment: BAND SAW Cut blanks: (1.000" x 2.000") 4.425" long	J.L 06.03.15
3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1	
		Comment: HAAS CNC VERTICAL MACHINING #1  1-Machine D3121-113 as per Folio FA330 and Dwg D3121 Identify as D3121-113  2-Deburr  3-Scribe batch number	J.L 06.03.15
4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE	
		Comment: INSPECT PARTS AS THEY COME OFF MACHINE	J.L 06.03.15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 3/2/2006 3:08:06 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET ASSEMBLY

Job Number: 26038

Part Number: D3121143

Job Number:



Seq. #: Machine Or Operation:

Description :

5.0 QC8 SECOND CHECK



Comment: SECOND CHECK

M8 06/03/15 6

6.0 D312121 Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)

Pick:

Qty Part Number Description Batch  
2 D3121-21 Bolt B25560

JL 06.03.15

7.0 D3121241 Bearing Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)

Pick:

Qty Part Number Description Batch  
1/2 D3121-241 Bearing Ass B25477-5 Pcs

J.L 06.03.15

8.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



(6)

Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble D3121-143 as per Dwg D3121.

J.L 06.03.15 (6)

9.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

M8 06/03/15 (6)

10.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 408

AP 06/03/16 (6)

11.0 DC DOCUMENT CONTROL



(6)

Comment: DOCUMENT CONTROL

Inspection Level 21

AD 06/03/17

Job Completion



U 06/03/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes  No  DQA:  Date: 26/03/17  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	
Description: Bracket	Part Number:	D3121-113
Inspection Dwg: D3121	Rev: C2	Page 1 of 2

### FIRST ARTICLE INSPECTION CHECKLIST

First Article     Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.080	+/-0.010	.080	✓			
0.300	+/-0.010	.303	✓			
R0.375	+/-0.010	.375	✓			
1.54	+/-0.030	1.541	✓			
0.350	+/-0.010	.341	✓			
R0.250	+/-0.010	.250	✓			
1.800	+/-0.030	1.803	✓			
Ø0.392	+0.002/-0.000	.3925	✓			
Ø0.201	+0.005/-0.000	.202	✓			
0.100	+/-0.010	.098	✓			
2.540	+/-0.010	2.541	✓			
1.590	+/-0.010	1.591	✓			
0.160	+/-0.010	.161	✓			
0.400	+/-0.010	.391	✓			
1.220	+/-0.010	1.221	✓			
1.600	+/-0.010	1.603	✓			
3.80	+/-0.030	3.805	✓			
1.800	+/-0.010	1.803	✓			
R0.500	+/-0.010	.500	✓			
0.130	+/-0.010	.138	✓			
3.41	+/-0.030	3.405	✓			
3.65	+/-0.030	3.641	✓			
2.24	+/-0.030	2.245	✓			
45°	+/-0.1°	45°	✓			
R0.250	+/-0.010	.250	✓			
3.97	+/-0.030	3.973	✓			
R0.38	+/-0.030	.38	✓			
Ø0.392	+0.002/-0.000	.3925	✓			
Ø0.201	+0.005/-0.000	.202	✓			
0.100	+/-0.010	.098	-			
0.268	+/-0.010	0.268	✓			
R0.260	+/-0.010	.260	✓			
0.080	+/-0.010	.080	✓			
0.300	+/-0.010	.302	✓			

RELEASED

10/05/06

DART AEROSPACE LTD	Work Order:	
Description: Bracket	Part Number:	D3121-113
Inspection Dwg: D3121	Rev: C2	Page 2 of 2

# FIRST ARTICLE INSPECTION CHECKLIST

## X First Article      Prototype

Measured by:	JL	Audited by:	TNL	Prototype Approval:	N/A
Date:	06-03-15	Date:	06/03/15	Date:	N/A

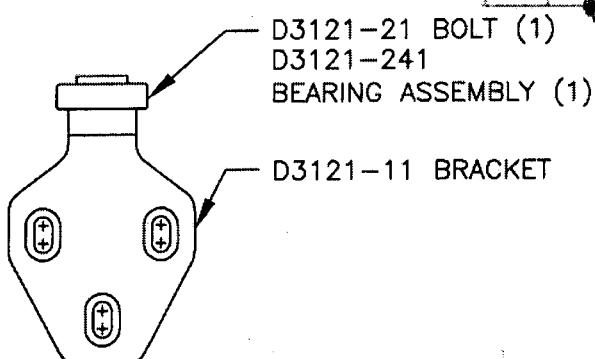
Rev	Date	Change	Revised by	Approved
A	03.12.08	New Issue P/O D3121-143	KJ/RF	
B	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	<i>JLM</i>

**RELEASED**

~~SEARCHED~~

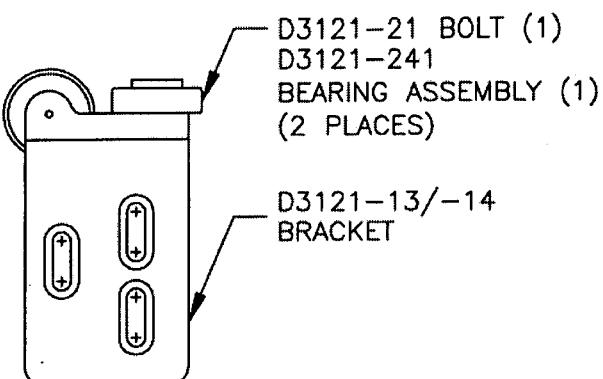
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CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3121	REV. C SHEET 1 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2

**RELEASED**  
04.03.01

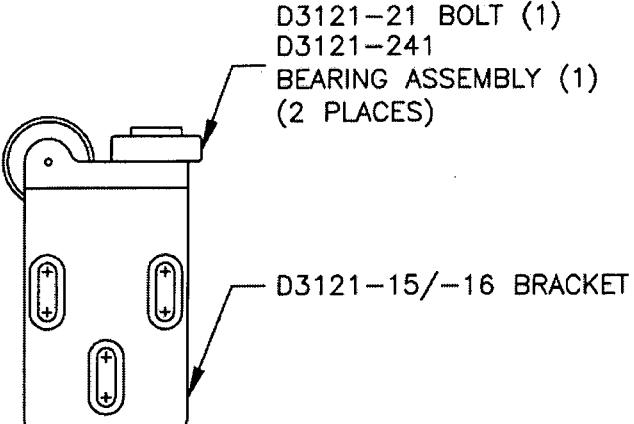
D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)

**D3121-041 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-33)



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)  
(2 PLACES)

**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)**  
**BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)  
(2 PLACES)

**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)**  
**BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-35/-36)

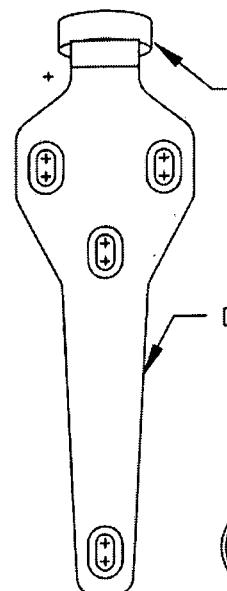
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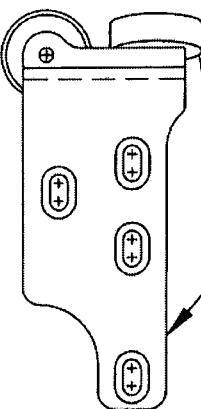
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DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)

**D3121-141 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23001-01)

D3121-111 BRACKET



D3121-21 BOLT (1)  
D3121-241 BEARING ASSEMBLY (1)  
(2 PLACES)

D3121-113/-114 BRACKET

**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)  
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-03/-04)

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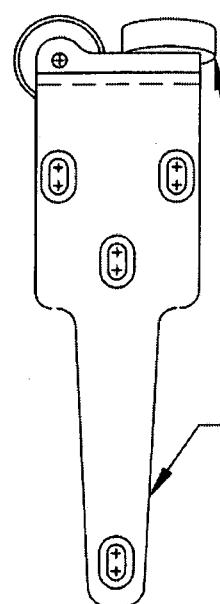
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D3121-21 BOLT (1)  
D3121-241 BEARING ASSEMBLY (1)  
(2 PLACES)

D3121-115/-116  
BRACKET

**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)  
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-05/-06)

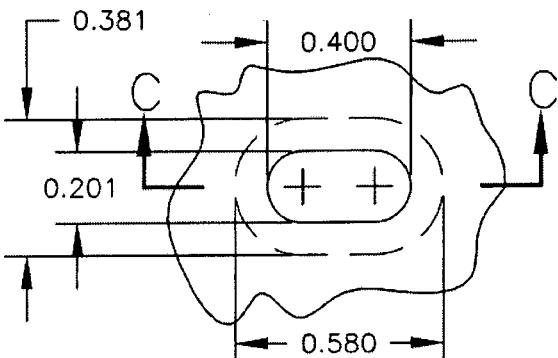
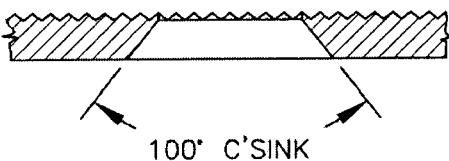
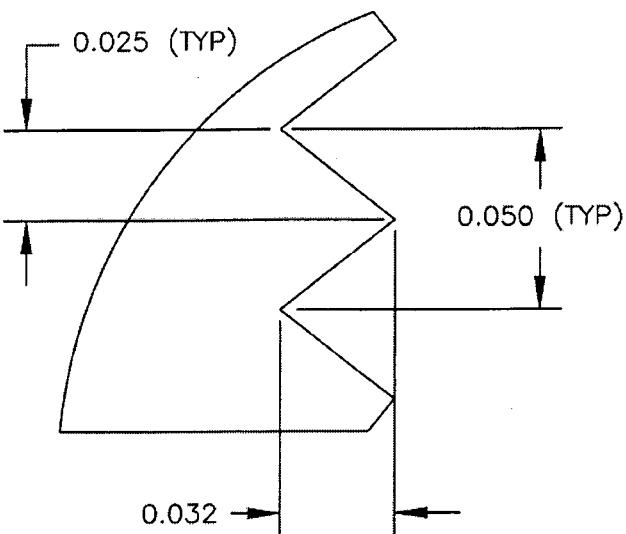
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		D3121	SHEET 3 OF 10
DATE		TITLE	SCALE
04.02.17		BRACKET ASSEMBLY	1:1

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*04.03.01***DETAIL A:**  
**SLOT DETAIL**  
SCALE 2:1  
VIEW ROTATED**SECTION  
C-C****DETAIL B:**  
**RIDGE DETAIL**  
PARTIAL SECTION  
SCALE 1:20

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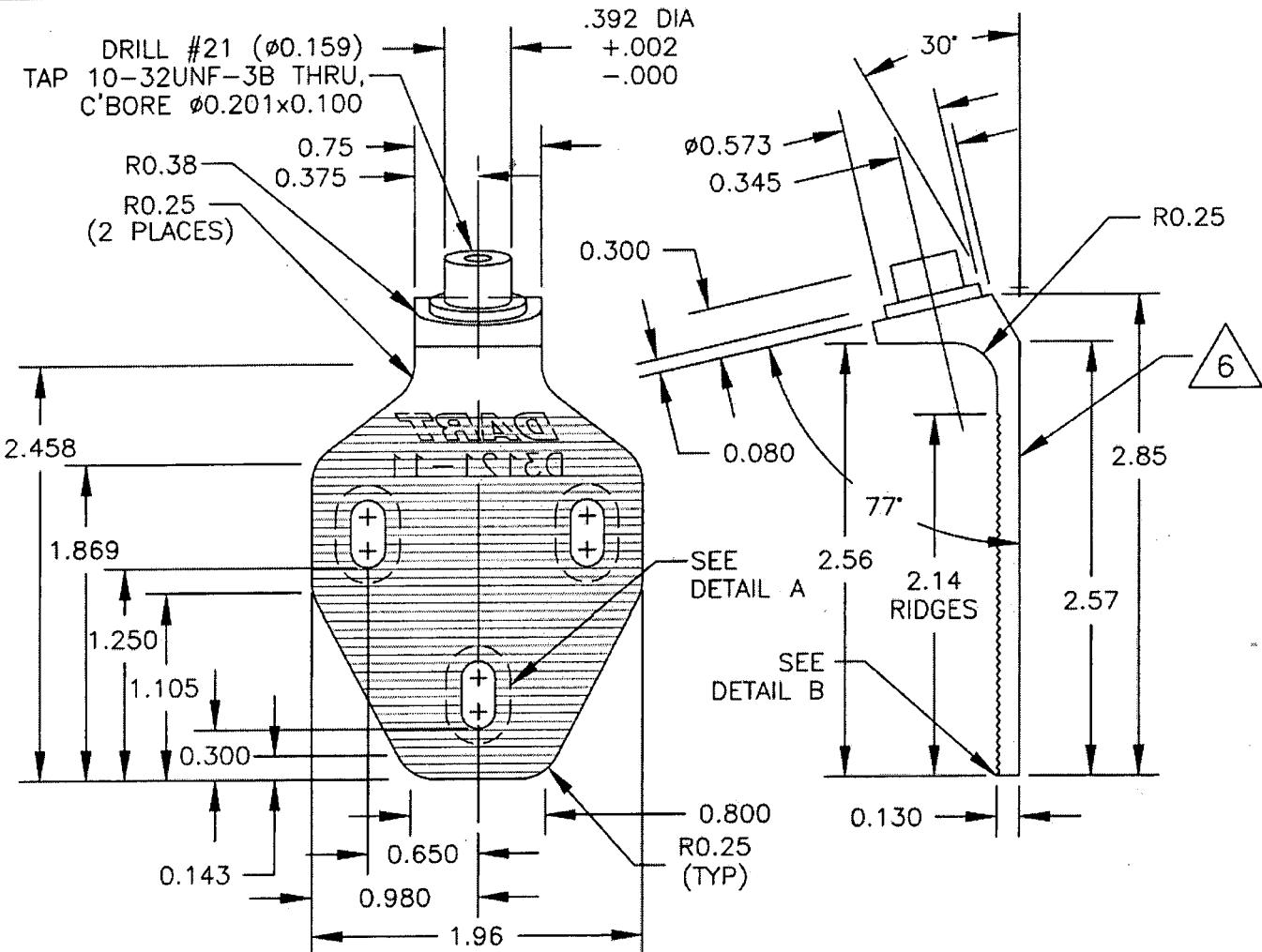
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DATE 04.02.17	TITLE BRACKET ASSEMBLY		SCALE 1:1	



**D3121-11 BRACKET**

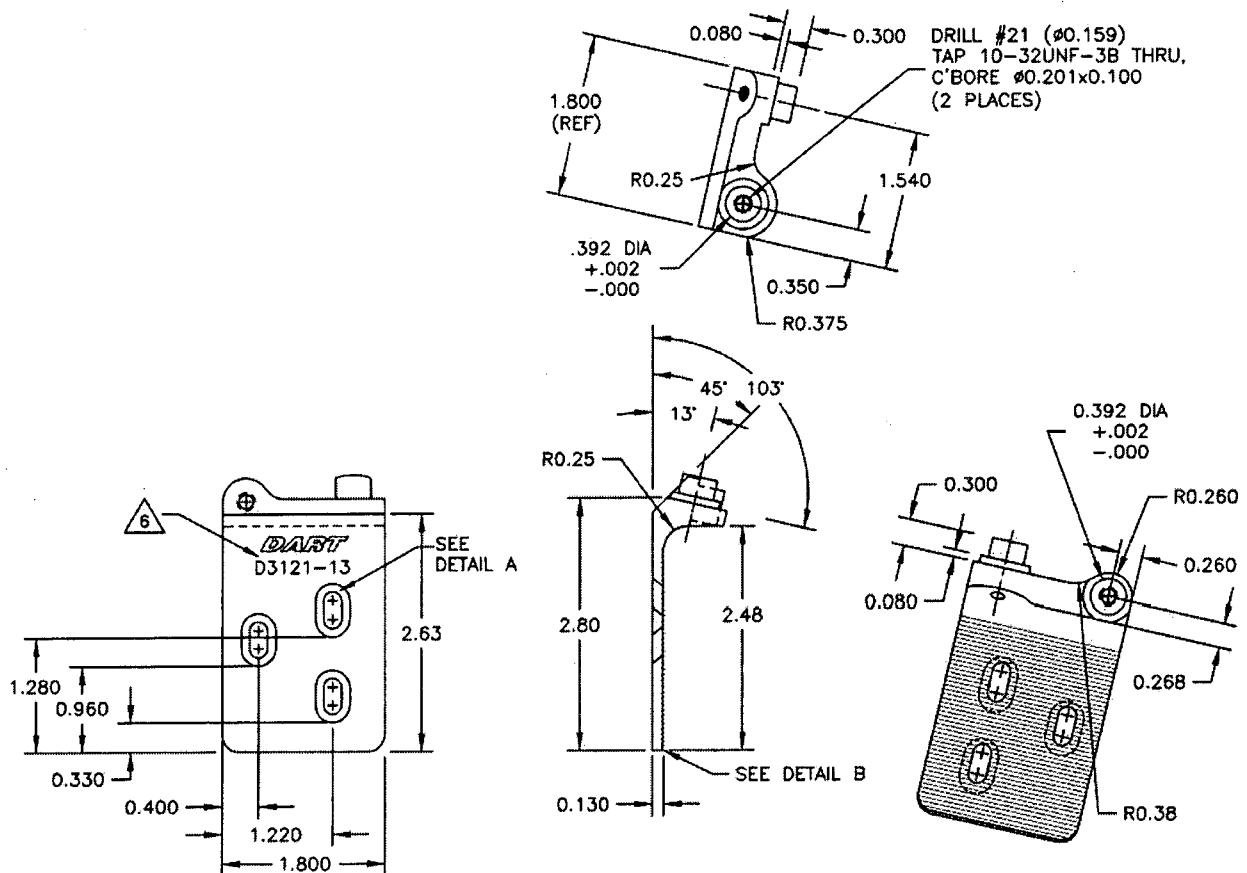
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DATE		SHEET 5 OF 10 TITLE: BRACKET ASSEMBLY SCALE: 1:2

**D3121-13 BRACKET (SHOWN)****D3121-14 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

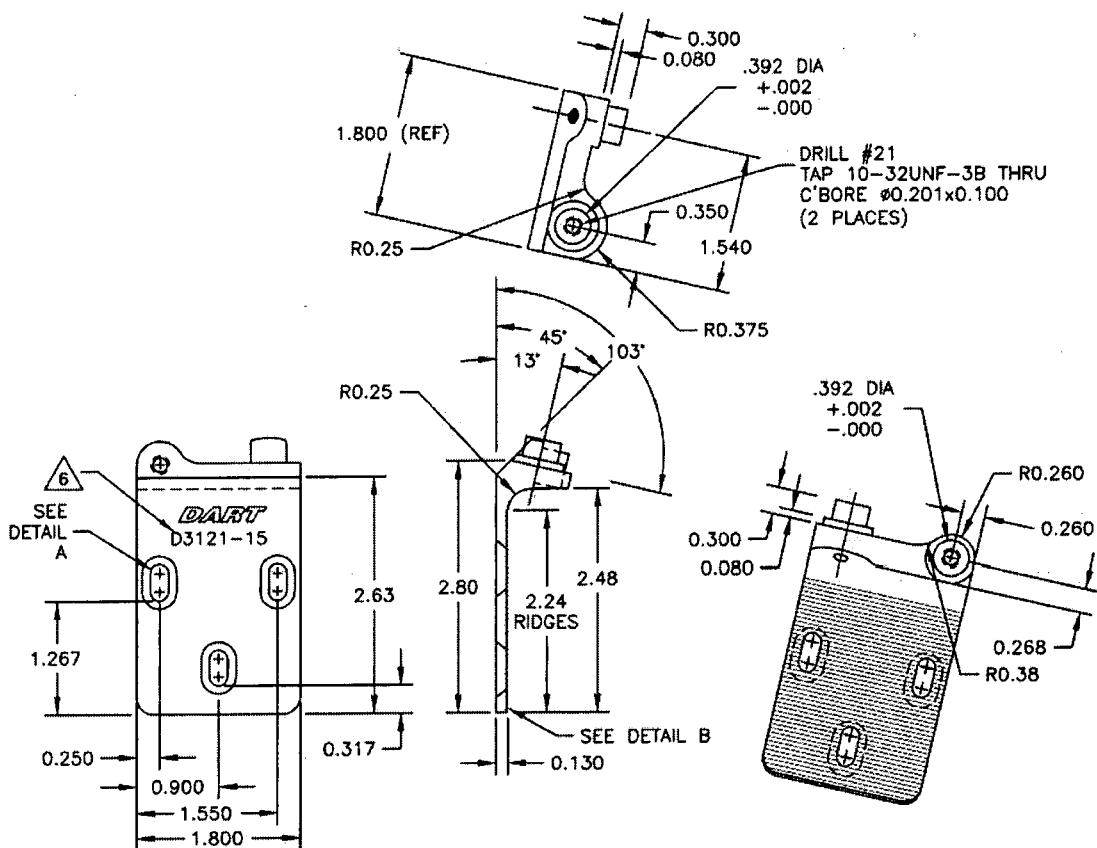
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DATE		SHEET 6 OF 10

04.02.18 TITLE: BRACKET ASSEMBLY SCALE 1:2

**D3121-15 BRACKET (SHOWN)****D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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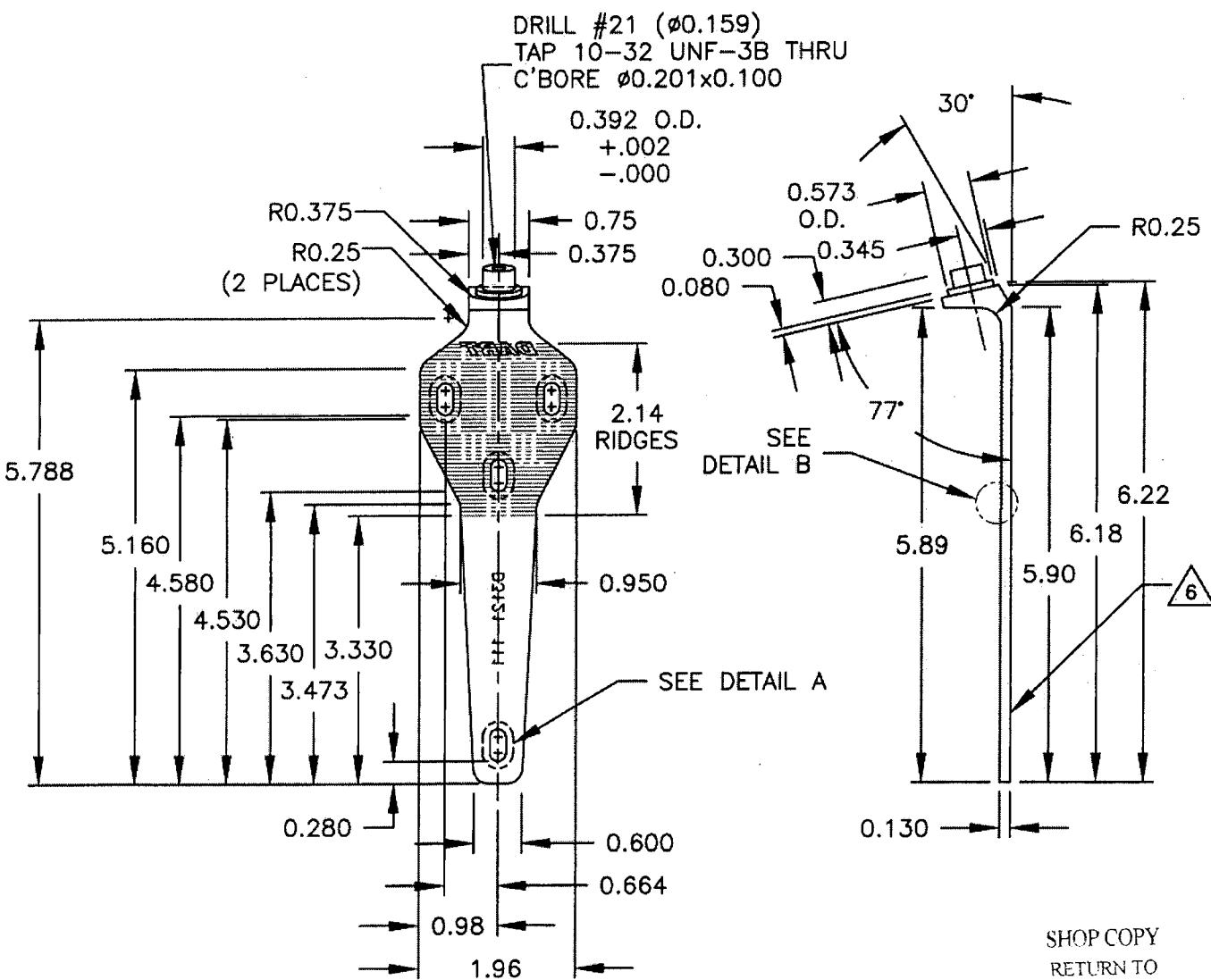
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DATE 04.02.18	TITLE BRACKET ASSEMBLY	SCALE 1:2	

**D3121-111 BRACKET**

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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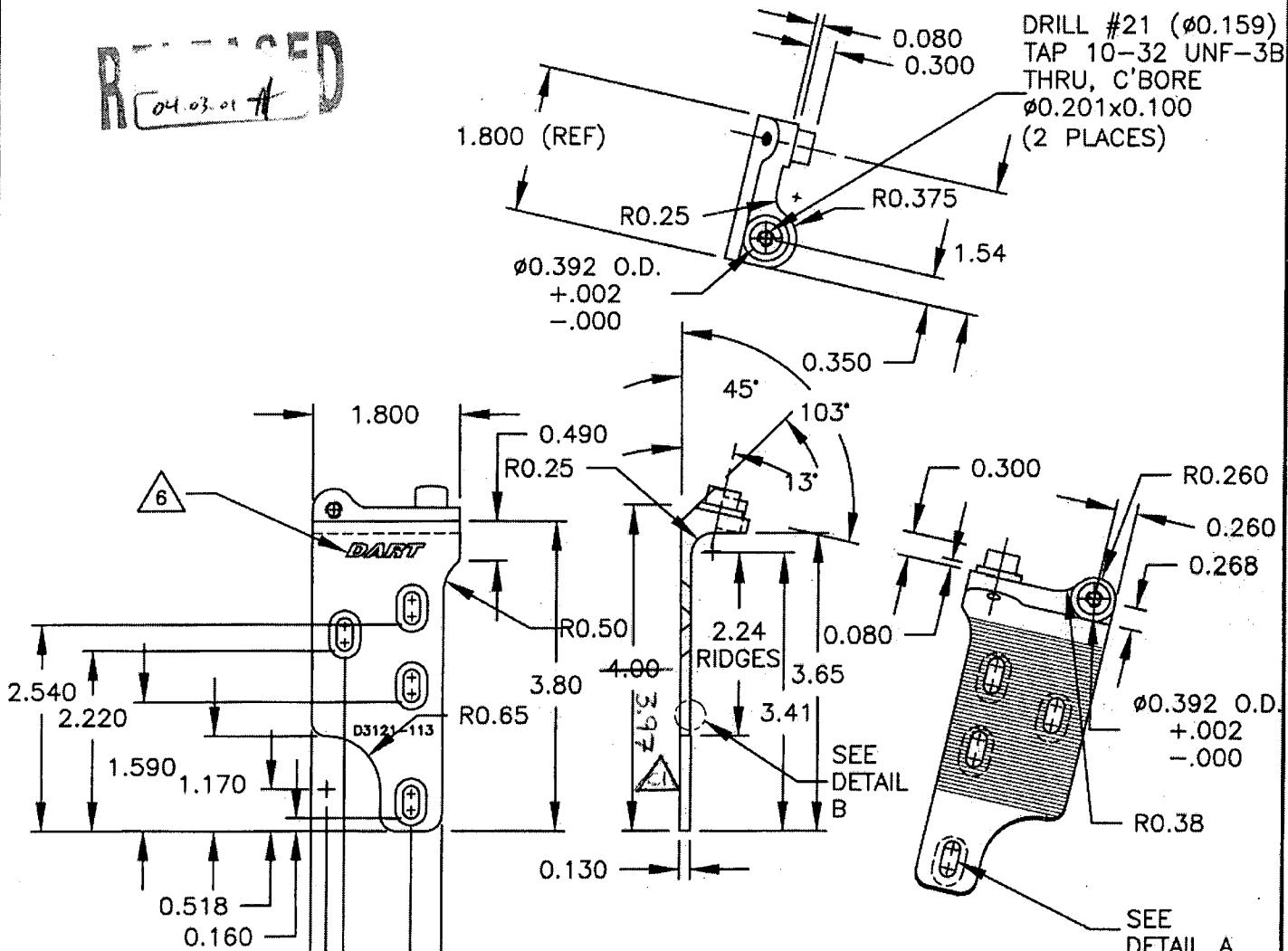
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		D3121	SHEET 8 OF 10

DATE 04.02.18 TITLE BRACKET ASSEMBLY SCALE 1:2

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04.03.01



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NO. 26038

#### **D3121-113 BRACKET (SHOWN)**

#### **D3121-114 BRACKET (OPPOSITE)**

- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13  
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS  
OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005



DESIGN

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HAWKESBURY, ONTARIO, CANADA

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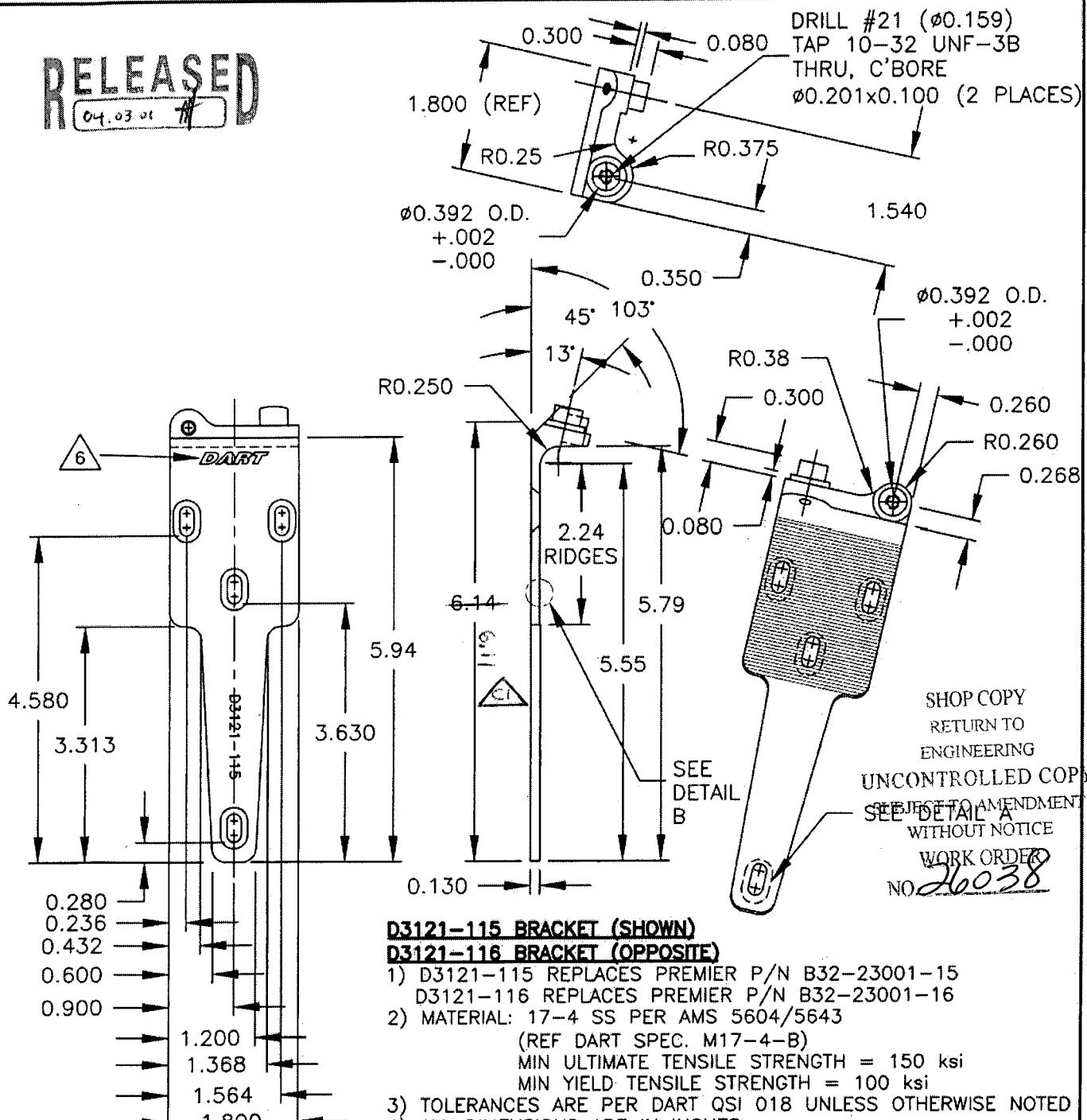
DATE  
04.02.18

**TITLE**

**SCALE**

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04.03.01

04.03.06



D3121-115 BRACKET (SHOWN)  
D3121-116 BRACKET (OPPOSITE)

1) D3121-115 REPLACES PREMIER P/N B32-23001-15  
D3121-116 REPLACES PREMIER P/N B32-23001-16

2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

4) ALL DIMENSIONS ARE IN INCHES

5) BREAK ALL SHARP EDGES 0.005 TO 0.015

6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN

7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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CHECKED	APPROVED
DATE	TITLE

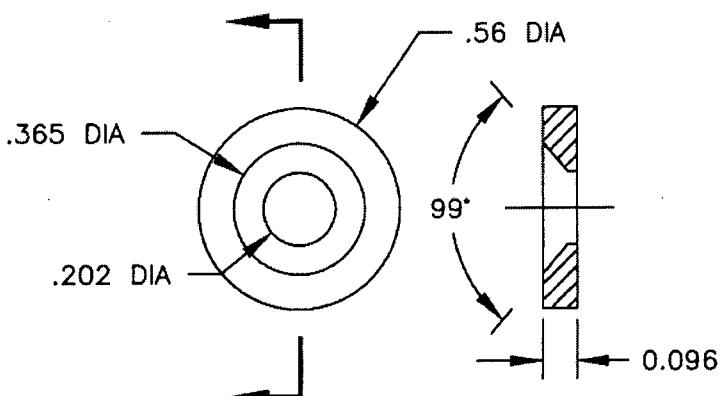
**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

REV. C

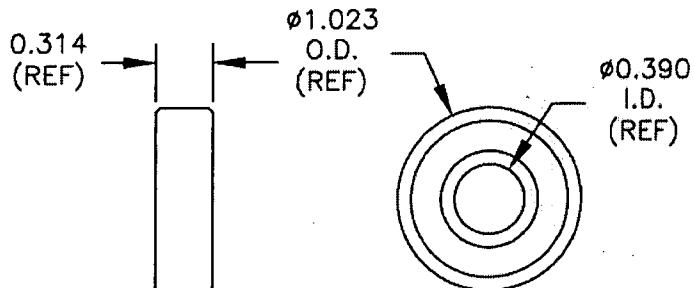
SHEET 10 OF 10

SCALE

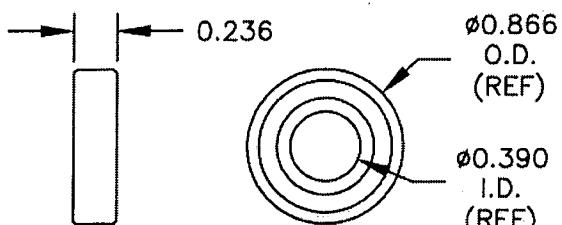
1:1

**D3121-17 WASHER (SCALE 2:1)**

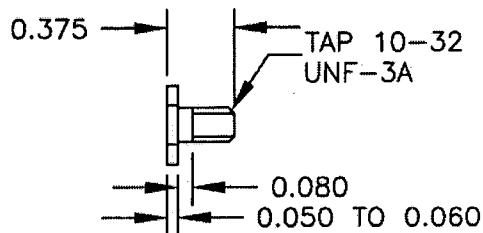
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

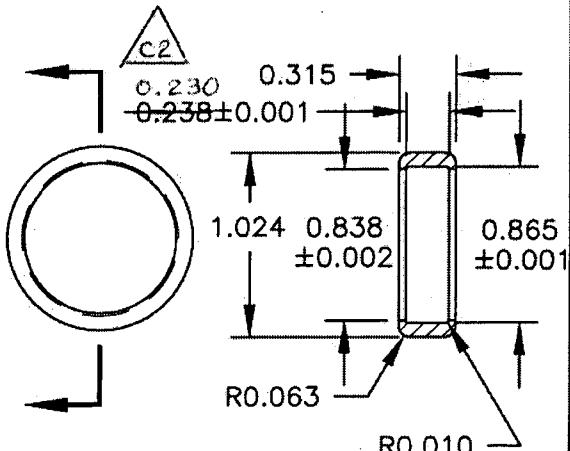
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM  
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z  
OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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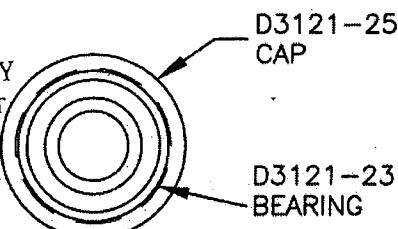
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SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

**RELEASED**  
NO. \_\_\_\_\_

**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**